

Introduction

The *California Dietary Practices Surveys (CDPS)* is the most extensive dietary and physical activity assessment of adults 18 years and older in the state of California. *CDPS* was designed in 1989 and is administered biennially in odd years. This survey is housed in the California Department of Public Health's Cancer Prevention and Nutrition Section (CPNS). *CDPS* was designed to monitor dietary trends, especially fruit and vegetable consumption, among California adults for evaluating their progress toward meeting the Dietary Guidelines for Americans, the Healthy People 2010 objectives, and the California Daily Food Guide recommendations

Survey Questions

Fruit and vegetable consumption was collected using a simplified 24-hour recall which queried about each meal on the previous day, including breakfast, lunch, dinner, and all snacks. Respondents were asked if they ate each meal or any snacks and whether any fruit or vegetable was consumed at each eating occasion, including mixed foods. If so, the respondent was asked to name the item, including major fruit or vegetable ingredients; and identify how many servings of it were eaten. A serving was defined to the respondent as "whatever you think of as a normal portion for yourself." Only 100% juices were counted, and legumes (beans) were excluded from tabulation of fruit and vegetable totals. The consumption questions are followed by questions that assessed motivations, barriers, knowledge, attitudes, and behavior related to healthy eating and health practices.

Consumption of foods high in dietary fibers (whole grain breads, tortillas, cereal, and beans), consumption of milk products (milk, yogurt, cheese, and frozen desserts) soy, beef, and high fat/high sugar foods (deep fat fried foods, pastries, and desserts), were also reported. Respondents were asked whether they consumed any of these food items on the previous day. Again, a serving was defined to the respondent as "whatever you think of as a normal portion for yourself," except for beef consumption where serving sizes were defined in the question. If a respondent reported consuming milk, cheese, frozen desserts, or salad dressing, the type was also asked. For example, "specify whether the item was regular, reduced fat, low fat, or nonfat."

Questions about meals eaten outside of the house and grocery shopping habits were also added as modules on the *CDPS* survey. All respondents were asked how often they ate out-of-home at a restaurant, cafeteria, or fast food establishment on the previous day, specifically querying if any of the meals were at a fast food establishment, such as McDonald's, Taco Bell, Burger King, or Kentucky Fried Chicken. Shopping practices were asked of all respondents. Frequency of shopping in a grocery store or supermarket, looking for specials in the newspaper, buying displayed items, taking home information from the store, and reading about fruits and vegetables were asked. Additional questions about consumer awareness and attitudes about supermarket and retail promotions follow the shopping practice questions.

Though the *CDPS* has been known, primarily, as a dietary survey, it also collects data on other factors associated with eating behaviors. In 1995 questions were added to assess food security and participation in the Food Stamp Program. Physical activity, as well as height and weight questions were added in 1999. In 2005, *CDPS* incorporated questions concerning worksite and neighborhood environment.

Sampling Methods

Using a random digit dial phone survey approximately 1,500-1,700 adults (ages 18 and above) were interviewed between the months of July and October. Demographic data included gender, age, ethnicity, education level, income, physical activity level, and overweight status. Data were oversampled for low-income Latino adults, low-income African American adults, and other low-income adults to provide greater sensitivity for analyzing trends among these typically underrepresented population segments.

Statistical Analysis

Data were weighted to the 2000 United States Census in order to provide representative data for the state as a whole. The inclusion of a low-income oversample required that the data also be weighted for income; and to be consistent with *CDPS* collected in previous years we used income-by-ethnicity-by-age census data. Given these conditions, the working assumption was that, for a given ethnic and age group, the income distribution for males and females were the same such that there was a similar proportion among males and females within an ethnic-age category that were low-income. Data analyzed by the demographic variables used to create weights (age, gender, ethnicity, income) and by four educational categories, consistent with those used by the national Behavioral Risk Factor Surveillance System coordinated through the United States Centers for Disease Control and Prevention.

Applications

Recent applications of the survey data have been to guide the development and enhancement of the *Network for a Healthy California* and its targeted statewide social marketing campaigns. For example, data on fruit and vegetable consumption and physical activity or specific demographic groups have helped the campaigns identify barriers and facilitators towards achieving recommended health behaviors by the target audience. The data have also enabled CPNS to track improvements in fruit and vegetable consumption and physical activity corresponding to the total impressions generated by the campaigns. In addition, they have provided California produce growers with information on which products were being consumed among different segments of the California population. Future data analyses will be focused on low-income and Food Stamp eligible adults.

Statistical Notes

- Mark Hudes, Ph.D., the consultant statistician to Cancer Prevention and Nutrition Section, conducted the statistical analysis.
- Statistical significance was indicated if differences were detected at the $p < .05$ level or greater. Variables which were either continuous or ordinal and summarized as means were analyzed for differences between demographic subgroups using either t-test or one-way ANOVA. The t-test was employed to compare males to females. The one-way ANOVA was employed to compare differences by ethnicity, education, income, and age within sex. If statistically significant, the ANOVA was followed up with Tukey's Standardized Range Test at a procedure-wise error rate of five percent.
- The 2003 *CDPS* data tables provide bivariate relationships unadjusted for any other variables
- Variables that were dichotomous or categorical and summarized as proportions were examined for differences among demographic subgroups using Chi-Square test of independence.
- A respondent was classified as meeting the physical activity recommendation if he or she reported attaining 30 minutes or more of moderate or vigorous physical activity at least five days a week.
- A respondent was considered "Overweight/Obese" if his or her Body Mass Index (BMI) was ≥ 25 .
- Statistical limitations: Caution should be taken when significance of a given comparison is significant at only $p < .05$. Results where $p < .01$ and $p < .001$ are less likely to be spurious.

Technical Assistance

For technical assistance regarding the *CDPS*, contact Ama Atiedu, MS, at AAatiedu@cdph.ca.gov.